

Wherefore, I/we claim:

1. A drive train for a four wheel drive vehicle comprising:

a prime mover powering a transmission providing drive power to a front drive train and rear drive train;

the front drive train having a front transaxle driveably connected to the transmission, the front transaxle having a first differential device located between at least a first and a second front wheels;

the rear drive train having a rear axle driveably connected to the transmission, the rear axle having a second differential device positioned between at least a first and a second rear wheels, and a rear drive shaft extending between the transmission and the rear axle to provide power from the prime mover to the first and second rear wheels; and

a continuously variable coupling situated in the drive train to provide contiguous power transmission between the front drive train and the rear drive train at a desired ratio permitting a difference between a front wheel rotation speed and a rear wheel rotation speed.

2. The drive train for a four wheel drive vehicle as set forth in claim 1, further comprising the continuously variable coupling positioned in the rear drive train to permit the difference between the front wheel rotation speed and the rear wheel rotation speed.

3. The drive train for a four wheel drive vehicle as set forth in claim 2, wherein the continuously variable coupling comprises a variator having a first cone pulley pair and a second cone pulley pair connected by a belt or chain providing a variator ratio between the first and second cone pulley pair in a range of about 0.9-1.8.

4. The drive train for a four wheel drive vehicle as set forth in claim 3, wherein the first cone pulley pair is connected to the rear drive shaft and the second cone pulley pair is connected to the rear axle.

5. The drive train for a four wheel drive vehicle as set forth in claim 4, further comprising a first gear set connecting the rear drive shaft and the first cone pulley pair, and a second gear set connecting the second cone pulley to the rear axle to provide torque control through the variator.

6. A drive train for a four wheel drive vehicle comprising:

a prime mover powering a continuously variable transmission providing drive power to a front drive train and rear drive train;

the front drive train having a front transaxle driveably connected to the transmission, the front transaxle having a first differential device located between at least a first and a second front wheels;

the rear drive train having a rear axle driveably connected to the transmission, the rear axle having a second differential device positioned between at least a first and a second rear wheels, and a rear drive shaft extending between the transmission and the rear axle to provide power from the prime mover to the first and second rear wheels; and

a side shaft separate from the front drive train extending from the continuously variable transmission to provide a power take off for the rear drive shaft independent of any torque change through the front drive train.

7. A drive train for a four wheel drive vehicle comprising:

a prime mover powering a continuously variable transmission providing drive power to a front drive train and rear drive train;

the front drive train having a front transaxle driveably connected to the transmission, the front transaxle having a first differential device located between at least a first and a second front wheels;

the rear drive train having a rear axle driveably connected to the transmission, the rear axle having a second differential device positioned between at least a first and a second rear wheels, and a rear drive shaft extending between the transmission and the rear axle to provide power from the prime mover to the first and second rear wheels;

a side shaft separate from the front drive train extending from the continuously variable transmission to provide a power take off for the rear drive shaft independent of any torque change through the front drive train; and

a continuously variable coupling situated in the drive train to provide contiguous power transmission between the front drive train and the rear drive train at a desired ratio permitting a difference between a front wheel rotation speed and a rear wheel rotation speed.